# 2016 Pollution Prevention (P2) Intern Program

K-State Engineering Extension Pollution Prevention Institute

# Background

- Eleventh year of program (2006 Pilot year)
- Partnership with EPA, KDHE, Engineering Extension
- Supported by
  - K-State faculty

# Purpose

Designed to link top-level engineering and environmental sciences students with business and industry. These collaborations will focus on projects to reduce industrial emissions and wastes, while benefiting the Kansas environment.

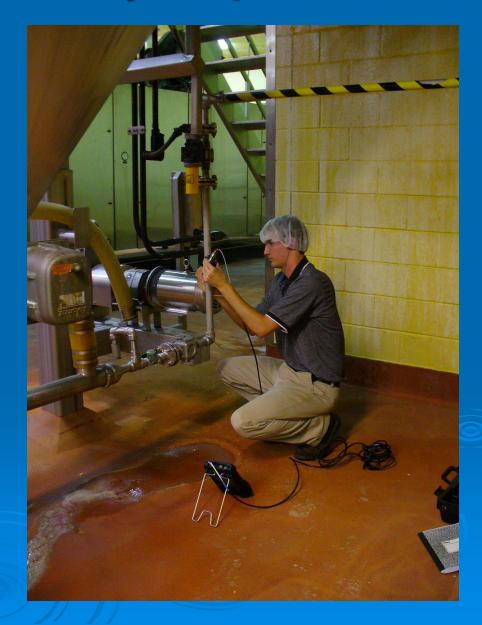




# Real-world industry experience







### Real-World Impacts

- Waste diverted
- Energy saved
- > Emissions reduced
- Dollars saved
- Water conserved

### **Environmental Results**

| IMPACTS                                      | 2006  | 2007  | 2008   | 2009  | 2010  | 2011  | 2012  | 2013  | 2014   | 2015  | Total  |
|--|-------|-------|--------|-------|-------|-------|-------|-------|--------|-------|--------|
| Water<br>(million<br>gallons)                | N/A   | 25.4  | 187.1  | 9.9   | 22.2  | 6.0   | 11.8  | 7.8   | N/A    | 10.2  | 280    |
| Waste (tons)                                 | 1,025 | 5,506 | 1,707  | 6,720 | 585   | 318   | 126   | 519   | N/A    | N/A   | 16,500 |
| Energy<br>(MWh)                              | 1,533 | 7,066 | 26,019 | 8,705 | 6,158 | 5,723 | 6,548 | 4,322 | 487    | 2,859 | 69,422 |
| Operating/<br>disposal \$<br>(million \$)    | \$0.4 | \$1.5 | \$3.5  | \$0.9 | \$1.2 | \$0.6 | \$0.7 | \$1.8 | \$0.05 | \$0.4 | \$11.0 |
| Greenhouse<br>Gases<br>(MTCO <sub>2</sub> e) | 1,089 | 5,079 | 18,921 | 6,207 | 7,080 | 3,996 | 2,608 | 4,260 | 346    | 2,843 | 52,400 |

• Implementation rate – 66% (soon to be 75%)

# Types of Projects (2015)

- > 249 projects
  - Energy 139 (65%)
  - Water 50 (20%)
  - Waste 44 (18%)
  - Natural Gas 10 (4%)
  - Chemical Replacement 1 (0.4%)
  - Diesel 1 (0.4%)
- Energy-related Projects 199 (80%)

### Host Companies

- Haldex Brake\*
- Columbian Chemicals Company
- Frontier Refining
- The Monarch Cement Company
- Frito-Lay
- Hallmark Cards
- Philips Lighting
- Schwan's Global Supply
- Wolf Creek Nuclear Operation Corp.
- Via Christi
- CertainTeed
- Unilever Foodsolutions
- Florence Manufacturing
- Associated Wholesale Grocers
- GTM Sportswear
- Compass Minerals

- K-State
- Robbie Fantastic Flexibles
- > The Coleman Company
- Deffenbaugh Industries
- Johnson County Community College
- Prairie Band Potowotami Nation
- Associated Purchasing Services
- Bombardier Aerospace Learjet
- CST Storage
- Hill's Pet Nutrition
- Kansas Army National Guard
- Kickapoo Tribe in Kansas
- Mercy Regional Health Center
- Capstan Ag
- Dillon's

<sup>\*</sup>Companies participating multiple years

### Program Elements

- Pollution prevention training at K-State (Industrial Sustainability, Jan 2017)
- Placement x 10 weeks
- > Support
  - Technical assistance
    - Site visit
    - Listserve
  - Equipment
- > Intern retreat
- Final reports and presentations

# Cost to Company

- > \$17/hour, plus fringe
- > 7,480, assuming 40hrs/week\*11weeks
- Charged only for hours worked (verified by company)

### Schedule of Events

- Dec 15: applications due
  - \$7,480 (\$17/hr for 11 weeks), plus fringe
  - Terms and agreements
- Jan 12-14: intersession course (training)
- > Feb 6-10: interview potential interns
- Feb 13-24: select interns, pair w/host companies, and make offers
- > Mar 5-9: confirm interns
- May 26-Aug 3: interns with host companies
- Late July: draft report
- Early August: final report
- Mid-September: K-State presentations

### **Contact Information**

Questions or recommendations?

Applications due December 15th

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